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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/484,223 | 01/18/2000 | Toshitaka Agano | q55890 | 9431 |

7590 01/28/2003

Sughrue Mion Zinn Macpeak & Seas PLLC
2100 Pennsylvania Avenue N W
Washington, DC 20037-3202

EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,223

Applicant(s)

AGANO ET AL.

Examiner

Prasad R Akkapeddi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>7</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,16,21 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "unrecognizable structure" is used in a way that is contrary to accepted meaning in the art.

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While the Examiner agrees that the applicants are entitled to be their own lexicographers, the Examiner still maintains that the term "unrecognizable structure" is still contrary to accepted meaning. Line 3, page 17 of the specification merely states an unrecognizable structure and does not have any discussion associated with it.

However, on page 22 of the amendment dated 10/24/2002, the applicant defines an unrecognizable structure as a 'structure with a visual angle that is an angle formed between two lines extending respectively from both ends of an object, with a visual angle of two minutes or less'. This definition is normally referred to in the art as "**unresolvable**" NOT 'unrecognizable'.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,2,4,16,18,21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (previously cited) in view of Valliath et al. (Valliah) (U.S. Patent No. 5,629,785).

As to claims 1, 2,4,16,18 and 21,22, 24-25:

In addition to the previously identified rejections in the Office Action dated May 15, 2002, these additional comments and rejections are provided. While disclosing passing areas that correspond to the light transmitting spheres and are

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separated by low-passing areas (Fig. 8), Watanabe, however, does not disclose 'portions of the passing areas and a portion of the low-passing area are disposed past the spheres in a passing direction of the collimated light'. Valliath on the other hand, in disclosing a similar liquid crystal display device with a diffuser discloses that the glass microspheres (30) are disposed in a light absorbing matrix (i.e., binder, 32) (Fig. 2) thus simultaneously forming passing areas and low passing areas and portions of the passing areas and the low passing areas are disposed past the spheres in a passing direction of the light (Fig. 2). Watanabe discloses that the diffusing plate (10S) is disposed on a viewing side of the display (Fig. 8)

As to claims 23 and 26-31: Watanabe discloses anti-reflection layers (28) that prevents extraneous light from being scattered and are provided on the light diffusing plate which is provided on the viewing side of the display screen.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the specific structure of the diffuser as disclosed by Valliath to the device disclosed by Watanabe to enhance contrast in the display.

5. Claims 3, 5-15, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe and Valliath as applied to the above claims above, and further in view of Yamaguchi Jun et al. (Jun) ^{JPO3087827} as cited by the applicant.

Neither Watanabe or Valliath disclose the use of light sensitive thermal developable material layer. Jun discloses a photosensitive and

thermosensitive material that forms color when exposed to light. So, in the areas where it is not exposed to light would be colorless. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the specific material as disclosed by Jun to the device disclosed by Watanabe and Valliath to obtain distinctive color images.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jones et al. (U.S. Patent 5,963,284) which discloses a similar device with a diffuser.

Response to Arguments

(a) Applicant's argument No. 1: the recitation "unrecognizable structure" is not used in a way that is contrary to accepted meaning in the art.

Examiner's Response to argument No. 1: While the Examiner agrees that the applicants are entitled to be their own lexicographers, the Examiner still maintains that the word "unrecognizable" is still contrary to accepted meaning. Line 3, page 17 of the specification merely states an unrecognizable structure and does not have any discussion associated with it. However, on page 22 of the amendment dated 10/24/2002, the applicant defines an unrecognizable structure as a 'structure with a visual angle that is an angle formed between two lines extending respectively from both ends of an object, with a visual angle of two minutes or less'. This definition is normally referred to in the art as "**unresolvable**" NOT 'unrecognizable'.

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(b) product-by-process limitations as identified in the previous Office action is hereby withdrawn.

(c) Please see the above rejections for the rest of the arguments.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

PRA

January 13, 2003

[Signature]
TOANTON
PRIMARY EXAMINER